Solutions for Managerial Accounting 8th Edition by Wild

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Solutions

Chapter 1

Managerial Accounting Concepts and Principles

QUICK STUDIES

Quick Study 1-1 (5 minutes)

1. Its primary users are company managers..... Managerial
2. Its information is often available only after an audit is complete.. Financial
3. Its primary focus is on the organization as a whole ..... Financial
4. Its principles and practices are relatively flexible..... Managerial
5. It focuses mainly on past results ..... Financial

Quick Study 1-2 (10 minutes)

1. Indirect cost
2. Direct cost
3. Indirect cost
4. Indirect cost
5. Direct cost

Quick Study 1-3 (10 minutes)

1. Direct materials
2. Factory overhead
3. Direct labor
4. Factory overhead
5. Factory overhead
6. Direct materials

Quick Study 1-4 (10 minutes)

1. Product cost
2. Period cost
3. Product cost
4. Period cost
5. Product cost
6. Period cost
7. Period cost
8. Product cost

Quick Study 1-5 (10 minutes)

1. Prime cost
2. Conversion cost (Glue is an indirect material)
3. Both
4. Conversion cost
5. Conversion cost
6. Prime cost

Quick Study 1-6 (10 minutes)

Ending work in process inventory is computed as:

Work in process inventory, beginning	$ 26,000
Direct materials used	74,000
Direct labor used	55,000
Factory overhead	95,000
Total manufacturing costs	224,000
Total cost of work in process	250,000
Less cost of goods manufactured	220,000
Work in process inventory, ending	$ 30,000

Quick Study 1-6 (*continued*)

Alternative calculation using T-account:

Work in Process Inventory			
Beginning	26,000		
Direct materials	74,000		
Direct labor	55,000		
Factory overhead	95,000		
		220,000	COGM
Ending	30,000		

Quick Study 1-7 (10 minutes)

Cost of goods sold is computed as:

Finished goods inventory, beginning	$ 500
Cost of goods manufactured	4,000
Goods available for sale	4,500
Less finished goods inventory, ending.....	700
Cost of goods sold	$3,800

Quick Study 1-8 (10 minutes)

Finished goods inventory, beginning	$ 345,000
Cost of goods manufactured	918,000
Goods available for sale	1,263,000
Less finished goods inventory, ending.....	283,000
Cost of goods sold	$ 980,000

Alternative calculation using T-account:

Finished Goods Inventory			
Beginning	345,000		
COGM	918,000		
		980,000	COGS
Ending	283,000		

Quick Study 1-9 (5 minutes)

Cost of goods sold is computed as:

Merchandise inventory, beginning	$12,000
Cost of merchandise purchased	85,000
Goods available for sale	97,000
Less merchandise inventory, ending	18,000
Cost of goods sold	$79,000

Quick Study 1-10 (10 minutes)

	(1)	(2)	(3)
Cost of merchandise purchased	$181,000	$140,000	$289,000
Merchandise inventory, beginning	106,000	21,000	28,000
Merchandise inventory, ending	82,000	33,000	50,000
Cost of goods sold	205,000	128,000	267,000

Calculations:

(1) $106,000 + Purchases - $205,000 = $82,000 ➔Purchases = $181,000

(2) Beg. Inv. + $140,000 - $128,000 = $33,000 ➔Beg. Inv. = $21,000

(3) $28,000 + $289,000 - $267,000 = End. Inv. ➔End. Inv. = $50,000

Quick Study 1-11 (15 minutes)

REX MANUFACTURING Income Statement For Year Ended December 31		
Sales		$92,000
Cost of goods sold		
Finished goods inventory, beginning	$ 19,000	
Cost of goods manufactured	40,000	
Goods available for sale	59,000	
Less finished goods inventory, ending	16,000	
Cost of goods sold		43,000
Gross profit		49,000
Selling expenses		12,000
General and administrative expenses		14,000
Net income		$23,000

Quick Study 1-12 (10 minutes)

BIN MANUFACTURING Current Assets Section of the Balance Sheet December 31	
Cash	$22,000
Accounts receivable, net	12,000
Raw materials inventory	8,000
Work in process inventory	18,000
Finished goods inventory	22,000
Prepaid insurance	4,000
Total current assets	$86,000

Quick Study 1-13 (10 minutes)

Raw materials inventory, beginning	$ 855
Raw materials purchased	3,646
Raw materials available for use	4,501
Less raw materials inventory, ending	717
Direct materials used	$3,784

Alternative calculation using T-account:

Raw Materials Inventory			
Beginning	855		
Purchased	3,646		
		3,784	Used
Ending	717		

Quick Study 1-14 (15 minutes)

	(1)	(2)	(3)
Direct materials used	$ 8,000	$14,000	$32,000
Direct labor used	4,000	13,000	18,000
Factory overhead	5,000	23,000	22,000
Total manufacturing costs	17,000	50,000	72,000

Calculations:

(1) $8,000 + $4,000 + $5,000 = $17,000

(2) $14,000 + Direct labor + $23,000 = $50,000 → DL = $13,000

(3) Direct materials + $18,000 + $22,000 = $72,000 → DM = $32,000

Quick Study 1-15 (15 minutes)

Barton Company Schedule of Cost of Goods Manufactured For Year Ended December 31	
Direct materials	$190,000
Direct labor	63,000
Factory overhead	24,000
Total manufacturing costs	277,000
Add work in process inventory, beginning	157,000
Total cost of work in process	434,000
Less work in process inventory, ending	142,000
Cost of goods manufactured	$292,000

Verification calculation (not substitute) using T-account:

Work in Process Inventory			
Beginning	157,000		
Direct materials	190,000		
Direct labor	63,000		
Factory overhead	24,000		
		292,000	COGM
Ending	142,000		

Quick Study 1-16 (10 minutes)

Raw materials inventory, beginning	$ 6,000
Raw materials purchased	123,000
Raw materials available for use	129,000
Less raw materials inventory, ending	7,000
Direct materials used	$122,000

Quick Study 1-17 (20 minutes)

Part A

Direct materials used*	$122,000	
Direct labor	94,000	
Factory overhead	39,000	
Total manufacturing costs	$255,000	

*$6,000 + $123,000 - $7,000 = $122,000 direct materials used

Part B

Schedule of Cost of Goods Manufactured

Direct materials		
Raw materials inventory, beginning	$ 6,000	
Raw materials purchases	123,000	
Raw materials available for use	129,000	
Less raw materials inventory, ending	7,000	
Direct materials used		$122,000
Direct labor		94,000
Factory overhead		
Indirect labor	20,000	
Depreciation expense—Factory	15,000	
Factory utilities	4,000	
Total factory overhead		39,000
Total manufacturing costs		255,000
Add work in process inventory, beginning		12,000
Total cost of work in process		267,000
Less work in process inventory, ending		9,000
Cost of goods manufactured		$258,000

Quick Study 1-18 (15 minutes)

	(1)	(2)	(3)
Total manufacturing costs	$179,000	$150,000	$217,000
Work in process inventory, beginning	105,000	10,000	32,000
Work in process inventory, ending	84,000	22,000	12,000
Cost of goods manufactured	200,000	138,000	237,000

Calculations:

(1) Mfg. costs + $105,000 - $200,000 = $84,000 ➔Mfg. costs = $179,000

(2) $150,000 + Beg. Inv. - $138,000 = $22,000 ➔Beg. Inv. = $10,000

(3) $217,000 + $32,000 - $237,000 = End. Inv. ➔End. Inv. = $12,000

Quick Study 1-19 (5 minutes)

Average manufacturing cost per unit = Cost of goods manufactured / Units produced

Cost of goods manufactured	$918,700
Units produced	18,374
Average unit cost	$ 50

Quick Study 1-20 (10 minutes)

1. E
2. C
3. B
4. A
5. D

Quick Study 1-21 (10 minutes)

Raw materials used	$5,000
Raw materials inventory, beginning	900
Raw materials inventory, ending	1,100
Total beginning plus ending raw materials inventory	$2,000
Average raw materials inventory (Total / 2)	$1,000
RM inventory turnover (RM used / Average RM inventory)	5.0
Days' sales in RM inventory [(End. RM inv./RM used) x 365]	80 days

EXERCISES

Exercise 1-1 (10 minutes)

Business Decision	Primary Information Source
1. Determine whether to lend to a company	Financial
2. Evaluate a purchasing department's performance	Managerial
3. Report financial performance to shareholders	Financial
4. Estimate product cost for a new line of shoes	Managerial
5. Plan the manufacturing budget for next quarter	Managerial
6. Measure profitability of an individual store	Managerial
7. Prepare financial statements according to GAAP	Financial
8. Determine location and size for a new plant	Managerial

Exercise 1-2 (10 minutes)

Product Cost	Direct or Indirect
1. Leather cover for soccer balls	Direct
2. Annual flat fee paid for factory security	Indirect
3. Coolants for machinery	Indirect
4. Wages of product assembly workers	Direct
5. Factory supervisor salary	Indirect
6. Taxes on factory	Indirect
7. Machinery depreciation (straight-line)	Indirect
8. Rubber bladder interior for balls	Direct
9. Ink for labeling soccer balls	Indirect
10. Factory building rent	Indirect

Exercise 1-3 (10 minutes)

1. Indirect
2. Indirect
3. Direct
4. Indirect
5. Indirect
6. Direct
7. Indirect
8. Direct

Exercise 1-4 (10 minutes)

Cost	Classification
1. Advertising	Selling
2. Beverages served on plane	Direct
3. Accounting manager salary	General and administrative
4. Depreciation on plane	Indirect
5. Fuel used for plane flight	Direct
6. Flight attendant wages for flight	Direct
7. Pilot wages for flight	Direct
8. Aircraft maintenance manager salary.	Indirect

Exercise 1-5 (10 minutes)

1. Direct material
2. Factory overhead
3. Direct labor
4. General and administrative expense
5. Factory overhead
6. Factory overhead
7. Selling expense
8. Factory overhead

Exercise 1-6 (15 minutes)

	Product Costs			Period Costs	
Costs	Direct Materials	Direct Labor	Factory Overhead	Selling Expense	General & Admin. Expense
1. Factory electricity			X		
2. Advertising				X	
3. Depreciation on factory machine			X		
4. Batteries for electric cars	X				
5. Office supplies used					X
6. Wages to assembly workers		X			
7. Salesperson commissions				X	
8. Steel for cars	X				
9. Depreciation on office equipment					X
10. Leather for car seats	X				

Exercise 1-7 (30 minutes)

	Garcon Company	Pepper Company
1. COST OF GOODS MANUFACTURED		
Direct materials		
Raw materials inventory, beginning	$ 7,250	$ 9,000
Raw materials purchases	33,000	52,000
Raw materials available for use	40,250	61,000
Less raw materials inventory, ending	5,300	7,200
Direct materials used	34,950	53,800
Direct labor	19,000	35,000
Factory overhead		
Rental cost on factory equipment	27,000	22,750
Factory utilities	9,000	12,000
Indirect labor	9,450	10,860
Repairs—Factory equipment	4,780	1,500
Total factory overhead	50,230	47,110
Total manufacturing costs	104,180	135,910
Add work in process inventory, beginning	14,500	19,950
Total cost of work in process	118,680	155,860
Less work in process inventory, ending	22,000	16,000
Cost of goods manufactured	$ 96,680	$139,860
2. COST OF GOODS SOLD		
Finished goods inventory, beginning	$ 12,000	$ 16,450
Cost of goods manufactured	96,680	139,860
Goods available for sale	108,680	156,310
Less finished goods inventory, ending	17,650	13,300
Cost of goods sold	$ 91,030	$143,010

Exercise 1-8 (30 minutes)

(1)

GARCON COMPANY Income Statement For Year Ended December 31		
Sales		$195,030
Cost of goods sold		
Finished goods inventory, beginning	$12,000	
Cost of goods manufactured	96,680	
Goods available for sale	108,680	
Less finished goods inventory, ending	17,650	
Cost of goods sold		91,030
Gross profit		104,000
Selling expenses		50,000
General and administrative expenses		21,000
Net income		$33,000

PEPPER COMPANY Income Statement For Year Ended December 31		
Sales		$290,010
Cost of goods sold		
Finished goods inventory, beginning	$16,450	
Cost of goods manufactured	139,860	
Goods available for sale	156,310	
Less finished goods inventory, ending	13,300	
Cost of goods sold		143,010
Gross profit		147,000
Selling expenses		46,000
General and administrative expenses		43,000
Net income		$58,000

Exercise 1-8 (*continued*)

(2)

GARCON COMPANY Balance Sheet—Current Assets Section December 31	
Cash	$20,000
Accounts receivable, net	13,200
Raw materials inventory	5,300
Work in process inventory	22,000
Finished goods inventory	17,650
Total current assets	$78,150

PEPPER COMPANY Balance Sheet—Current Assets Section December 31	
Cash	$15,700
Accounts receivable, net	19,450
Raw materials inventory	7,200
Work in process inventory	16,000
Finished goods inventory	13,300
Total current assets	$71,650

Exercise 1-9 (20 minutes)

	Garcon Company	Pepper Company
1. PRIME COSTS		
Direct materials		
Raw materials inventory, beginning	$ 7,250	$ 9,000
Raw materials purchases	33,000	52,000
Raw materials available for use	40,250	61,000
Less raw materials inventory, ending	5,300	7,200
Direct materials used	34,950	53,800
Direct labor	19,000	35,000
Total prime costs	$53,950	$88,800
2. CONVERSION COSTS		
Direct labor (from part 1)	$19,000	$35,000
Factory overhead		
Rental cost on factory equipment	27,000	22,750
Factory utilities	9,000	12,000
Indirect labor	9,450	10,860
Repairs—Factory equipment	4,780	1,500
Total factory overhead	50,230	47,110
Total conversion costs	$69,230	$82,110

Exercise 1-10 (20 minutes)

Merchandising Business

UNIMART
Computation of Cost of Goods Sold

Cost of goods sold	
Merchandise inventory, beginning	$275,000
Cost of merchandise purchased	500,000
Goods available for sale	775,000
Less merchandise inventory, ending	115,000
Cost of goods sold	$660,000

Confirming calculation:

Merchandise Inventory			
Beginning	275,000		
Purchases	500,000		
		660,000	Cost of Goods Sold
Ending	115,000		

Manufacturing Business

BARE MANUFACTURING
Computation of Cost of Goods Sold

Cost of goods sold	
Finished goods inventory, beginning	$ 450,000
Cost of goods manufactured	900,000
Goods available for sale	1,350,000
Less finished goods inventory, ending	375,000
Cost of goods sold	$ 975,000

Confirming calculation:

Finished Goods Inventory			
Beginning	450,000		
Cost of Goods Manufactured	900,000		
		975,000	Cost of Goods Sold
Ending	375,000		

Exercise 1-11 (20 minutes)

Part 1

Company 1 = Sunrise Foods

Explanation: Data shows a merchandising firm as there is only one inventory item, Merchandise Inventory.

Company 2 = Rayzer Skis Mfg.

Explanation: Data reveals a manufacturing company as there are three inventory categories (Raw materials, Work in process, and Finished goods).

Part 2

Company 1

Sunrise Foods Current Assets Section of Balance Sheet December 31	
Cash	$ 7,000
Accounts receivable, net	62,000
Merchandise inventory	45,000
Prepaid expenses	1,500
Total current assets	$115,500

Company 2

Rayzer Skis Mfg. Current Assets Section of Balance Sheet December 31	
Cash	$ 5,000
Accounts receivable, net	75,000
Raw materials inventory	42,000
Work in process inventory	30,000
Finished goods inventory	50,000
Prepaid expenses	900
Total current assets	$202,900

Exercise 1-12 (15 minutes)

Account	Selling Expense	General & Admin. Expenses	Cost of Goods Manufactured
Advertising	✓		
Work in process inventory, beginning			✓
Computer supplies used in office		✓	
Depreciation expense—Factory			✓
Depreciation expense—Office		✓	
Wages for assembly workers			✓
Office employee wages		✓	
Factory maintenance wages			✓
Property taxes on factory			✓
Raw materials purchases			✓
Sales commissions	✓		

Exercise 1-13 (25 minutes)

DELRAY MFG. Schedule of Cost of Goods Manufactured For Year Ended December 31		
Direct materials		
Raw materials inventory, beginning	$ 37,000	
Raw materials purchases	175,600	
Raw materials available for use	212,600	
Less raw materials inventory, ending	42,700	
Direct materials used		$169,900
Direct labor		225,000
Factory overhead		
Indirect labor	47,000	
Repairs—Factory equipment	23,000	
Rent cost of factory building	57,000	
Total factory overhead		127,000
Total manufacturing costs		521,900
Add work in process inventory, beginning		53,900
Total cost of work in process		575,800
Less work in process inventory, ending		41,500
Cost of goods manufactured		$534,300

Exercise 1-14 (20 minutes)

DELRAY MFG. Income Statement For Year Ended December 31		
Sales		$1,250,000
Cost of goods sold		
Finished goods inventory, beginning	$ 62,700	
Cost of goods manufactured	534,300	
Goods available for sale	597,000	
Less finished goods inventory, ending	67,300	
Cost of goods sold		529,700
Gross profit		720,300
Selling expenses		94,000
General and administrative expenses		129,300
Net income		$ 497,000

Exercise 1-15 (25 minutes)

1.

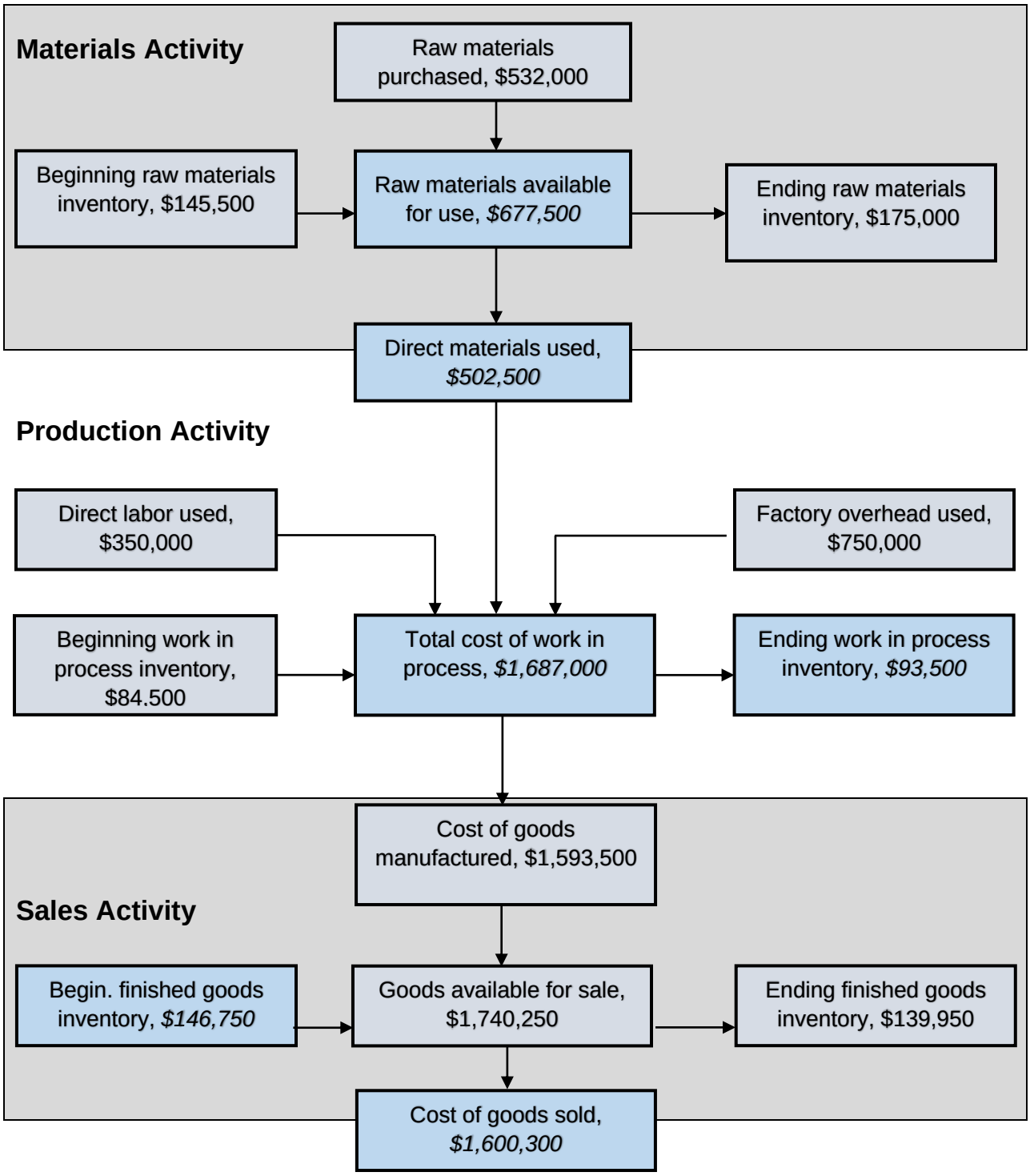
Beck Manufacturing Schedule of Cost of Goods Manufactured For Year Ended December 31		
Direct materials		
Raw materials inventory, beginning	$10,000	
Raw materials purchases	45,000	
Raw materials available for use	55,000	
Less raw materials inventory, ending	8,500	
Direct materials used		$ 46,500
Direct labor		27,500
Factory overhead		55,000
Total manufacturing costs		129,000
Add work in process inventory, beginning		14,000
Total cost of work in process		143,000
Less work in process inventory, ending		12,000
Cost of goods manufactured		$131,000

2.

Cost of goods sold	
Finished goods inventory, beginning	$ 16,000
Cost of goods manufactured	131,000
Goods available for sale	147,000
Less finished goods inventory, ending	18,000
Cost of goods sold	$129,000

Exercise 1-16 (15 minutes)

***Note*: Italicized numbers must be computed.**



Exercise 1-17 (20 minutes)

	(1)	(2)	(3)
Direct materials used	$ 46,500	$150,480	$33,890
Direct labor used	75,000	55,380	45,720
Factory overhead	122,000	32,840	60,275
Total manufacturing costs	243,500	238,700	139,885
Add work in process inventory, beginning	45,825	56,920	8,245
Total cost of work in process	289,325	295,620	148,130
Less work in process inventory, ending	23,905	22,545	11,250
Cost of goods manufactured	265,420	273,075	136,880

Situation 1

a) Direct materials used + $75,000 + $122,000 = $243,500
Direct materials used = $46,500

b) $289,325 = Work in process inventory, beginning + $243,500
$ 45,825 = Work in process inventory, beginning

c) Work in process inventory, ending = $289,325 - $265,420 = $23,905

Work in Process Inventory			
Beginning	45,825		
Direct materials	46,500		
Direct labor	75,000		
Factory overhead	122,000		
		265,420	Cost of Goods Manufactured
Ending	23,905		

Situation 2

d) $150,480 + Direct labor used + $32,840 = $238,700
Direct labor used = $55,380

e) Total cost of work in process = $56,920 + $238,700 = $295,620

Exercise 1-17 (*continued*)

f) Cost of goods manufactured = $295,620 - $22,545 = $273,075

Work in Process Inventory			
Beginning	56,920		
Direct materials	150,480		
Direct labor	55,380		
Factory overhead	32,840		
		273,075	Cost of Goods Manufactured
Ending	22,545		

Situation 3

g) Total manufacturing costs = $33,890 + $45,720 + $60,275 = $139,885

h) Total cost of work in process = $139,885 + $8,245 = $148,130

i) Cost of goods manufactured = $148,130 - $11,250 = $136,880

Work in Process Inventory			
Beginning	8,245		
Direct materials	33,890		
Direct labor	45,720		
Factory overhead	60,275		
		136,880	Cost of Goods Manufactured
Ending	11,250		

Exercise 1-18 (10 minutes)

1.	C	4.	A
2.	A	5.	C
3.	C	6.	B

Exercise 1-19 (10 minutes)

1.	Profit	4.	Profit
2.	People	5.	Planet
3.	Planet	6.	People

PROBLEM SET A

Problem 1-1A (30 minutes)

Part 1

Costs	Product	Period
1. Plastic for casing—$17,000	$17,000	
2. Wages of assembly workers—$82,000	82,000	
3. Property taxes on factory—$5,000	5,000	
4. Office accounting salaries—$35,000		$35,000
5. Drum stands—$26,000	26,000	
6. Rent cost of office for accountants—$10,000		10,000
7. Office management salaries—$125,000		125,000
8. Annual fee for factory maintenance—$10,000	10,000	
9. Sales commissions—$15,000		$15,000
10. Factory machinery depreciation, straight-line—$40,000	40,000	

Part 2

Calculation of Manufacturing Cost per Drum Set	
Manufacturing costs	
Plastic for casing	$ 17,000
Wages of assembly workers	82,000
Property taxes on factory	5,000
Drum stands	26,000
Annual fee for factory maintenance	10,000
Factory machinery depreciation	40,000
Total manufacturing costs	$180,000
Number of drum sets produced	1,000
Manufacturing cost per drum set	$180

Problem 1-2A (30 minutes)

Costs	Product Costs			Period Costs	
	Direct Mtls.	Direct Labor	Over-head	Selling	Gen. & Admin
Advertising expense				X	
Depreciation expense—Office equipment					X
Depreciation expense—Selling equipment				X	
Depreciation expense—Factory equipment			X		
Raw materials purchases	X				
Maintenance expense—Factory equipment			X		
Factory utilities			X		
Direct labor		X			
Indirect labor			X		
Office salaries expense					X
Rent expense—Office space					X
Rent expense—Selling space				X	
Rent expense—Factory building			X		
Sales salaries expense				X	

Problem 1-3A (30 minutes)

Part 1

LEONE COMPANY Schedule of Cost of Goods Manufactured For Year Ended December 31		
Direct materials		
Raw materials inventory, beginning	$ 166,850	
Raw materials purchases	925,000	
Raw materials available for use	1,091,850	
Less raw materials inventory, ending	182,000	
Direct materials used		$ 909,850
Direct labor		675,480
Factory overhead		
Indirect labor	159,475	
Factory utilities	33,000	
Depreciation expense—Factory equipment	49,325	
Rent expense—Factory building	76,800	
Maintenance expense—Factory equipment	35,400	
Total factory overhead		354,000
Total manufacturing costs		1,939,330
Add work in process inventory, beginning		15,700
Total cost of work in process		1,955,030
Less work in process inventory, ending		19,380
Cost of goods manufactured		$1,935,650

Problem 1-3A *(Continued)*

Part 2

LEONE COMPANY Income Statement For Year Ended December 31		
Sales		$4,462,500
Cost of goods sold		
Finished goods inventory, beginning	$ 167,350	
Cost of goods manufactured	1,935,650	
Goods available for sale	2,103,000	
Less finished goods inventory, ending	136,490	
Cost of goods sold		1,966,510
Gross profit		2,495,990
Selling expenses*		456,010
General and administrative expenses**		92,250
Net income		$1,947,730

*** $28,750 + $8,600 + $26,100 + $392,560**
****$7,250 + $63,000 + $22,000**

Problem 1-4A (20 minutes)

MERCHANDISING BUSINESS

MUSIC WORLD RETAIL Cost of Goods Sold for the Year	
Cost of goods sold	
Merchandise inventory, beginning	$ 200,000
Cost of merchandise purchased	300,000
Goods available for sale	500,000
Less merchandise inventory, ending	175,000
Cost of goods sold	$ 325,000

MANUFACTURING BUSINESS

WAVE-BOARD MFG. Cost of Goods Sold for the Year	
Cost of goods sold	
Finished goods inventory, beginning	$ 500,000
Cost of goods manufactured	875,000
Goods available for sale	1,375,000
Less finished goods inventory, ending	225,000
Cost of goods sold	$1,150,000

Problem 1-5A (20 minutes)

1. Raw materials inventory turnover = $\frac{\text{Raw materials used}}{\text{Average raw materials inventory}}$

   Current year = $2,160,000 / [($169,500 + $190,500)/2] = 12

   1 Year Ago = $2,522,000 / [($190,500 + $197,500)/2] = 13

2. Unfavorable

   Explanation: Raw materials usage has declined for a given amount of raw materials inventory. This implies management is less efficient at using its inventory.

3. Days' sales in raw materials inventory =
   (Ending raw materials inventory/Raw materials used) x 365

   Current year = ($169,500 / $2,160,000) x 365 = 28.6 days (rounded)

PROBLEM SET B

Problem 1-1B (30 minutes)

Part 1 Cost classification and amounts

	Costs	Product	Period
1.	Plastic for BDs—$1,500	$ 1,500	
2.	Wages of assembly workers—$30,000	30,000	
3.	Factory rent—$6,750	6,750	
4.	Human resources staff salaries—$15,000		$ 15,000
5.	BD labeling—$3,750	3,750	
6.	Office equipment rent—$1,050		1,050
7.	Office management salaries—$120,000		120,000
8.	Annual fee for factory maintenance—$21,000	21,000	
9.	Advertising—$7,200		7,200
10.	Factory machinery depreciation, straight-line—$18,000	18,000	

Part 2

Calculation of Manufacturing Cost per BD	
Manufacturing costs	
Plastic for BDs	$ 1,500
Wages of assembly workers	30,000
Factory rent	6,750
BD labeling	3,750
Annual fee for factory maintenance	21,000
Factory machinery depreciation	18,000
Total manufacturing costs	$81,000
Number of BDs produced	18,000
Manufacturing cost per BD	$4.50

Problem 1-2B (30 minutes)

Costs	Product Costs			Period Costs	
	Direct Mtls.	Direct Labor	Over-head	Selling	Gen. & Admin
Advertising expense				X	
Depreciation expense—Office equip					X
Depreciation expense—Selling equip				X	
Depreciation expense—Factory equip			X		
Raw materials purchases	X				
Maintenance expense—Factory equip			X		
Factory utilities			X		
Direct labor		X			
Indirect labor			X		
Office salaries expense					X
Rent expense—Office space					X
Rent expense—Selling space				X	
Rent expense—Factory building			X		
Sales salaries expense				X	

Problem 1-3B (30 minutes)

Part 1

BEST BIKES Schedule of Cost of Goods Manufactured For Year Ended December 31		
Direct materials		
Raw materials inventory, beginning	$ 40,375	
Raw materials purchases	894,375	
Raw materials available for use	934,750	
Less raw materials inventory, ending	70,430	
Direct materials used		$ 864,320
Direct labor		562,500
Factory overhead		
Indirect labor	180,500	
Factory utilities	37,500	
Depreciation expense—Factory equipment	49,900	
Rent expense—Factory building	93,500	
Maintenance expense—Factory equipment	30,375	
Total factory overhead		391,775
Total manufacturing costs		1,818,595
Add work in process inventory, beginning		12,500
Total cost of work in process		1,831,095
Less work in process inventory, ending		14,100
Cost of goods manufactured		$1,816,995

Problem 1-3B *(Continued)*

Part 2

BEST BIKES Income Statement For Year Ended December 31		
Sales		**$4,942,625**
Cost of goods sold		
Finished goods inventory, beginning	**$ 177,200**	
Cost of goods manufactured	**1,816,995**	
Goods available for sale	**1,994,195**	
Less finished goods inventory, ending	**141,750**	
Cost of goods sold		**1,852,445**
Gross profit		**3,090,180**
Selling expenses*		**352,675**
General and administrative expenses**		**102,940**
Net income		**$2,634,565**

***$20,250 + $10,125 + $27,000 + $295,300**
****$8,440 + $70,875 + $23,625**

Problem 1-4B (40 minutes)

Part 1

MERCHANDISING BUSINESS

TEEMART RETAILING Cost of Goods Sold for the Year	
Cost of goods sold	
Merchandise inventory, beginning	$100,000
Cost of merchandise purchased	250,000
Goods available for sale	350,000
Less merchandise inventory, ending	150,000
Cost of goods sold	$200,000

MANUFACTURING BUSINESS

AIM LABS MANUFACTURING Cost of Goods Sold for the Year	
Cost of goods sold	
Finished goods inventory, beginning	$300,000
Cost of goods manufactured	586,000
Goods available for sale	886,000
Less finished goods inventory, ending	200,000
Cost of goods sold	$686,000

Part 2

MEMORANDUM

TO:
FROM:
DATE:
SUBJECT:

Answers will vary slightly but should include:

- **The Merchandise Inventory account on December 31 for TeeMart and the Finished Goods Inventory account on December 31 for Aim Labs are computed and reported on the income statement as part of cost of goods sold.**
- **The inventory accounts must also be included in the current asset section of the balance sheet. Since Aim Labs is a manufacturer, it will also have raw materials and work in process inventory accounts.**

Problem 1-5B (30 minutes)

1. **Raw materials inventory turnover = $\frac{\text{Raw materials used}}{\text{Average raw materials inventory}}$**

   Current year = $2,385,000 / [($270,225 + $259,775)/2] = 9

   1 Year Ago = $2,695,000 / [($259,775 + $230,225)/2] = 11

2. **Unfavorable**

   Explanation: Raw materials usage has declined for a given amount of raw materials inventory. This implies management is less efficient at using its inventory.

3. **Days' sales in raw materials inventory =**
   (Ending raw materials inventory/Raw materials used) x 365

   Current year = ($270,225 / $2,385,000) x 365 = 41.4 (rounded)

SERIAL PROBLEM – SP 1

Serial Problem, Business Solutions (30 minutes)

1.

Product Costs	Direct	Indirect
1. Monthly fee to clean workshop		x
2. Laminate coverings for desktops	x	
3. Taxes on assembly workshop		x
4. Glue to assemble workstation components		x
5. Wages of desk assembler	x	
6. Electricity for workshop		x
7. Depreciation on manufacturing tools		x

2.

Business Solutions Schedule of Cost of Goods Manufactured For Month Ended January 31, 2022	
Direct materials	$2,200
Direct labor	900
Factory overhead costs	490
Total manufacturing costs	3,590
Add work in process inventory, beginning	0
Total cost of work in process	3,590
Less work in process inventory, ending	540
Cost of goods manufactured	$3,050

3.

Business Solutions Partial Income Statement For Month Ended January 31, 2022	
Cost of goods sold	
Finished goods inventory, beginning	$ 0
Cost of goods manufactured	3,050
Goods available for sale	3,050
Less finished goods inventory, ending	350
Cost of goods sold	$2,700

Company Analysis — AA 1-1

1. **Raw materials inventory turnover = $\frac{\text{Raw materials used}}{\text{Average raw materials inventory}}$**

   Current year = $72,000 / [($2,100 + $1,900)/2] = 36

   1 Year Ago = $74,800 / [($1,900 + $2,500)/2] = 34

2. **Favorable**

   Explanation: Apple's raw materials inventory turnover is higher in the current year than in the prior year. This implies raw materials usage has increased for a given amount of raw materials inventory. This also implies Apple is more effective at managing raw materials inventory in the current year.

Comparative Analysis — AA 1-2

1. **Raw materials inventory turnover = $\frac{\text{Raw materials used}}{\text{Average raw materials inventory}}$**

   a. Apple

   Current year = $72,000 / [($2,100 + $1,900)/2] = 36

   1 Year Ago = $74,800 / [($1,900 + $2,500)/2] = 34

   b. Google

   Current year = $42,000 / [($500 + $700)/2] = 70

   1 Year Ago = $30,000 / [($700 + $300)/2] = 60

2. **Apple's change in raw materials inventory (+ 2) is favorable.**
   Google's change in raw materials turnover (+10) is favorable.

3. **Apple's turnover of 36 underperforms the industry's 40.**
   Google's turnover of 70 outperforms the industry's 40.

Extended Analysis — AA 1-3

Days' sales in raw materials inventory = Ending raw materials inventory x 365
Raw materials used

1.

a. Samsung's days' sales in raw materials inventory

Current year..... $11,500 x 365 = 66 days
$63,598

Prior year..... $12,400 x 365 = 80 days
$56,575

b. Apple's days' sales in raw materials inventory

Current year..... $2,100 x 365 = 10.6 days (rounded)
$72,000

Prior year..... $1,900 x 365 = 9.3 days (rounded)
$74,800

2. Samsung's change in days' sales in raw materials inventory (- 14 days) is favorable.

Apple's change in days' sales in raw materials inventory (+ 1.3 days) is unfavorable.

3. Samsung's days' sales in raw materials inventory of 66 days is worse than Apple's of 10.6 days.

DISCUSSION QUESTIONS

1. **The managerial accountant plays an important role in preparing the information necessary for effective planning and control decisions. One example is the budget, which is a quantitative expression of a company's long-run and short-run plans. The budget is used to compare actual results to planned performance. With this type of information provided by the managerial accountant, management strives to continuously improve a business.**

2.

	Financial Accounting	Managerial Accounting
(a) Users	External users: Investors, creditors, and others outside of the company's managers	Internal users: Managerial and executive employees inside the organization
(b) Purpose	Help external users make investment, credit, and other decisions	Help managers make planning and control decisions
(c) Flexibility of reporting	Structured and controlled by GAAP	Relatively flexible (no GAAP)
(d) Time dimension	Past performance using historical information	Current performance and future projections using mostly real-time information
(e) Focus	The whole company	A company's projects, processes, and divisions
(f) Nature	Monetary information	Mostly monetary; some nonmonetary

3. **A customer orientation has led companies to adopt the principles of the lean business model in response to consumer demands. The essence of customer orientation is that all managers and employees should be sensitive to the wants and needs of customers, attempting to develop flexible product designs and production processes that are responsive to changes in customer demands along with minimization of defects. They are increasingly adopting management practices such as total quality management (TQM), just-in-time (JIT) manufacturing, and continuous improvement (CI).**

4. **Direct labor refers to the efforts of employees who physically convert materials to finished product. Indirect labor refers to the efforts of factory employees who do not work specifically on converting direct materials into finished products and whose efforts are not clearly associated (or traceable) with specific units or batches of product.**

5. **Factory overhead is limited to indirect costs that are incurred in the production process. That is, it consists of activities that support the production process, such as indirect material, indirect labor, factory heat, and related factory utilities.**

   Selling expenses and General and administrative expenses do not pertain to the production process. Instead, selling and general and administrative expenses are activities involved with selling the product and running the business. Accordingly, selling and general and administrative expenses are expensed as period costs.

6. **Direct materials are raw materials that physically become part of the product and can be clearly traced to specific units or batches of product. Indirect materials are used in the production process but either do not become a part of the product or are not easily traceable to units or batches of product. Some materials are identified as indirect because they are of insignificant value or it is not cost beneficial to trace them to finished products.**

7. **Direct labor is both a prime cost and a conversion cost.**

8. **Direct costs of iPhones include: costs of materials such as smartphone cameras, memory chips, screens, and processors, as well as the labor of workers who assemble the products.**

   Indirect costs include: cost of supervisors' salaries, factory lighting, factory heat, wages of maintenance workers, depreciation of factory equipment, insurance on the factory buildings, and property taxes on the factory buildings. *Note*: Other answers are possible as these lists are not comprehensive.

9. **Nonmanufacturing costs include selling expenses and general and administrative expenses. Examples of selling expenses include advertising costs, delivery costs, and costs related to salespersons. Examples of administrative expenses include office-related costs—accounting, wages, rent, equipment depreciation, insurance, and the office manager's salary.**

10. **The production manager should likely not be evaluated on the basis of general and administrative expenses. General and administrative expenses are not under the influence of production managers, and they should not be held accountable for them.**

11. **Product costs are capitalized because they represent a future value (an asset) to the business. Period costs are expensed because they are consumed in the current period.**

12. **A manufacturing business produces a product, whereas in a merchandising or service business this is not the case. In making a product, the manufacturing business must control and measure three types of inventories: raw materials, work in process, and finished goods. A merchandising business, on the other hand, must control and measure only merchandise inventory, and a service firm typically does not control and measure any inventory.**

13. **To run a successful business, management must make predictions and estimates about what will occur in the future. Thus, managerial accountants must project how the numbers will look under different possibilities.**

14. **A manufacturing firm converts raw materials into finished products. A manufacturing company would report three types of inventories on its balance sheet: raw materials, work in process, and finished goods. The finished goods are included on the income statement as part of cost of goods sold. A merchandising company purchases inventories to resell. A merchandising company would report only one inventory item (merchandise inventory) on its balance sheet, and would include the merchandise inventory on the income statement as part of cost of goods sold. (*Note*: The manufacturer would add cost of goods manufactured to the beginning finished goods to determine the goods available for sale. The merchandising firm adds purchases to its beginning merchandise inventory to determine the goods available for sale.)**

15. **Manufacturers' balance sheets usually include small tools, factory buildings, factory machinery, and patents that are used to produce finished goods. For example, the "Plant Assets" category will often include factory machinery and factory building. A merchandising company would usually not own these assets.**

16. **Manufacturing firms have inventories at various stages of completion. Manufacturing a product requires raw materials, which are converted to finished goods. Manufacturing companies maintain raw materials inventory so that they have materials available to produce goods. Any unfinished product is classified as work in process. Work in process inventory may be maintained to keep the factory running. Finished goods inventory is maintained to supply to customers when they place orders. (*Note*: A JIT system attempts to minimize all three types of inventory.)**

17. **The goals of the lean business model are to eliminate waste, satisfy customers, and provide a positive return to the company.**

18. **The three categories of manufacturing costs are: direct materials, direct labor, and factory overhead.**

19. **Examples of factory overhead costs include: indirect materials, indirect labor, depreciation of the factory equipment and plant, amortization of patents, the cost of small tools used, factory utilities, insurance on the factory and equipment, property taxes on plant and equipment, property taxes on materials and work in process inventories, and repairs and maintenance on the factory building and equipment. More generally, all costs associated with manufacturing a good that are not classified as direct material or direct labor are included in overhead.**

20.

Components of Schedule of COGM	Apple Examples
Direct material	Processors, chips, covers
Direct labor	Wages of production employees
Factory overhead	Factory heat, factory lighting
Computation of cost of goods manufactured	Computation (see Exhibit 14.16)

21.

Google
Schedule of Cost of Goods Manufactured
For Year Ended December 31

The date matches the period of the income statement. The "schedule of cost of goods manufactured" supports the income statement in computing cost of goods available for sale for the cost of goods sold section.

22. The bottom line of the schedule of cost of goods manufactured is the cost of goods manufactured. That amount is included in the income statement in the calculation of the cost of goods sold.

23. Raw materials inventory turnover and days' sales in raw materials inventory can be used to assess raw materials inventory management. Raw materials inventory turnover is computed as raw materials used divided by average raw materials inventory, and it measures how often a company turns over (sells) its raw materials inventory during a period. Days' sales in raw materials inventory is computed as ending raw materials inventory divided by raw materials used, all multiplied by 365. It measures how long (in days) it will take to use raw materials inventory in production.

24. The triple bottom line reports on an organization's financial, social, and environmental performance.

25. The four overarching principles are: Honesty, Fairness, Objectivity, and Responsibility. The IMA suggests first trying to resolve ethical conflicts by applying the established policies of your organization. If this is unsuccessful, contact your immediate supervisor (unless he or she is involved in the ethical conflict). For additional help you might seek advice from the IMA anonymous helpline and/or your personal attorney.

Ethics Challenge — BTN 1-1

1. **The purchase of raw materials should be recorded in Raw Materials Inventory (an asset). If the raw materials were instead improperly expensed in the current period, the financial statements would not comply with GAAP, nor with standard practices in managerial accounting.**

2. **The challenge is how to handle a request to use one's accounting skills in an inappropriate manner. It is important to remember that the behavior of the managerial accountant is governed by ethical rules. This means that one's response to the chief financial officer can rely on guidance from the managerial accounting profession (these guidelines are available at www.IMAnet.org or www.aicpa.org).**

Communicating in Practice — BTN 1-2

Instructor note: The solution to this project depends on the database and career fields reviewed.

The objective of this Communicating in Practice project is to make students aware of the earnings potential of different professions—particularly, the often higher salaries of accounting professionals with several years of experience. It also directs them to the school's career services and placement office or relevant information in the library or on the Web. Finally, it provides useful experience in effectively communicating financial information in memorandum format.

Teamwork in Action — BTN 1-3

Part 1

a. Materials used = Beg. Materials + Materials purchased - End. materials
= $177,500 + $872,500 - $168,125
= $881,875

b. Factory overhead
= Depreciation on factory equipment + Factory utilities + Indirect labor + Rent expense—factory building + Maintenance on factory equipment
= $32,500 + $60,500 + $182,500 + $79,750 + $27,875
= $383,125

c. Total manufacturing costs
= Materials used (from a) + Direct labor + Factory overhead (from b)
= $881,875 + $650,750 + $383,125
= $1,915,750

d. Total cost of work in process
= Beg. WIP Inv. + Total manufacturing costs (from c)
= $15,875 + $1,915,750
= $1,931,625

e. Cost of goods manufactured
= Total cost of work in process (from d) - Ending WIP Inventory
= $1,931,625 - $14,000
= $1,917,625

Part 2

Requires that the team check answer to part (1e) with instructor before proceeding to part (3).

Teamwork in Action *(Continued)*

Part 3

a. Cost of goods sold
= Beg. finished goods + Cost of goods manuf. (from 1e) - End. finished goods
= $164,375 + $1,917,625 - $129,000
= $1,953,000

b. Gross profit
= Sales - Cost of goods sold (from a)
= $3,217,500 - $1,953,000
= $1,264,500

c. Total selling expenses
= Advertising expense + Depreciation expense on selling equipment + Rent expense on selling space + Sales salaries expense
= $19,125 + $10,000 + $25,750 + $286,250
= $341,125

d. Total general and administrative expenses
= Depreciation expense on office equipment + Office salaries expense + Rent expense on office space
= $8,750 + $100,875 + $21,125
= $130,750

e. Net income
= Gross profit (from b) - Total selling expenses (from c) - Total general and administrative expenses (from d)
= $1,264,500 - $341,125 - 130,750
= $792,625

Entrepreneurial Decision — BTN 1-4

1. **A merchandiser computes cost of goods sold as:**

   Beginning merchandise inventory + Purchases – Ending merchandise inventory

   Teanna must monitor and control her cost of merchandise purchases, including makeup costs and shipping costs. She must also control other costs, including makeup applicators; rent on her storefront; taxes; insurance; and utilities.

2. **Four goals of a total quality management (TQM) process are reduced waste, better inventory control, fewer defects, and continuous improvement.**

   Sweet Tea Cosmetics can use TQM to ensure its key raw materials are of the highest quality. The company can also provide workers with clear training and supervision. These efforts will reduce waste throughout the production process and yield a higher quantity of finished goods that meet customer standards.

CHAPTER 1
MANAGERIAL ACCOUNTING CONCEPTS AND PRINCIPLES

Related Assignment Materials

Student Learning Objectives	*Questions*	*Quick Studies**	*Exercises**	*Problems**	*DA, AA and BTN*
Conceptual objectives:					
C1. Explain the roles and ethics of managerial accounting.	1, 2, 25	1-1	1-1		BTN 1-2, BTN 1-6
C2. Describe accounting concepts useful in classifying costs.	4, 5, 6, 7, 8, 9, 10,11, 13	1-2, 1-3, 1-4, 1-5	1-2, 1-3, 1-4, 1-5, 1-6, 1-9	1-1, 1-2	DA 1-1, DA 1-2
C3. Explain manufacturing activities and the flow of manufacturing costs.	18, 19		1-16		BTN 1-1
C4. Describe trends in managerial accounting.	3, 17, 24	1-20	1-18, 1-19	SP	BTN 1-4
Analytical objectives:					
A1 Assess raw materials inventory management using raw materials inventory turnover and days' sales in raw materials inventory.	23	1-21		1-5	AA 1-1, AA 1-2, AA 1-3
Procedural objectives:					
P1. Prepare an income statement and balance sheet for a manufacturer.	12, 14, 15, 16, 22	1-6, 1-7, 1-8, 1-9, 1-10, 1-11, 1-12	1-7, 1-8, 1-10, 1-11, 1-15	1-1, 1-3, 1-4, 1-5, SP	DA 1-2, BTN 1-3, BTN 1-4
P2. Prepare a schedule of cost of goods manufactured and explain its purpose and links to financial statements.	20, 21	1-13, 1-14, 1-15, 1-16, 1-17, 1-18, 1-19	14-7, 1-9, 1-12, 1-13, 1-14, 1-15, 1-17	1-3, SP	BTN 1-3

See additional information on next page that pertains to these quick studies, exercises, and problems.
SP refers to the Serial Problem
AA refers to Accounting Analysis
DA refers to Tableau Dashboard Activities
BTN refers to Beyond the Numbers
GL refers to General Ledger Problems
Questions with Guided Example videos

Additional Information on Related Assignment Material

Available on the instructor's course-specific website, Connect repeats all numerical Quick Studies, all Exercises, and Problem Set A. Connect also provides algorithmic versions for Quick Study, Exercises, and Problems. It allows instructors to monitor, promote, and assess student learning. It can be used in practice, homework, or exam mode.

We have a variety of tools available to make updating your course as painless as possible. Our latest tool is the Connect Pre-Built Course Package. The package includes three tools to get you started with Connect for the new edition. You can use the pre-built course as is or customize it to meet your needs.

Connect Pre-Built Course Package (formerly called Library course)

- Connect course: Pre-built courses include reading, homework, and assessment for each chapter. Pre-built courses are designed and created by a digital faculty consultant that uses the product in the course.
- Key: a spreadsheet that lists all the assignments (organized by type and learning objective) and policy settings to make it quick and easy to see what is included in the pre-built course.
- Sample syllabi: customizable document that highlights the assignments and policy settings in the pre-built course.

The Connect Orientation Videos provide an introduction for your students for using Connect to complete assignments to help get your students up and running in the system. There are videos covering:

- End-of-Chapter Assignments
- General Ledger
- Concept Overview Videos
- Excel Simulations
- SmartBook 2.0

General Ledger Problems

Assignable within Connect, General Ledger (GL) problems offer students the ability to see how transactions post from the general journal all the way through the financial statements. Critical thinking and analysis components are added to each GL problem to ensure understanding of the entire process. GL problems are auto-graded and provide instant feedback to the student.

Excel Simulations

Assignable within Connect, Excel Simulations allow students to practice their Excel skills—such as basic formulas and formatting—within the context of accounting. These questions feature animated, narrated Help and Show Me tutorials (when enabled). Excel Simulations are auto-graded and provide instant feedback to the student.

Smartbook 2.0

Available within Connect, **SmartBook** makes study time as productive and efficient as possible. SmartBook identifies and closes knowledge gaps through a continually adapting reading experience that provides personalized learning resources at the precise moment of need. This ensures that every minute spent with SmartBook is returned to the student as the most value-added minute possible. The result? More confidence, better grades, and greater success.

Chapter Videos

A growing number of students now learn accounting online. To aid instructors and students completing their accounting courses in person, fully online, and in hybrid formats, we offer a large set of learning resource including videos to ensure student success. There are also instructor resources to add a personal touch to these learning aids.

Tableau Dashboard Activities

These activities expose students to accounting analytics using visual displays. These assignments do not require instructors to know Tableau, are accessible to introductory students, do not require Tableau software, and run in Connect. All are auto-gradable.

Hints/Guided Examples

The Guided Examples in Connect provide a narrated, animated, step-by-step walk-through of select quick studies, exercises, and general ledger problems similar to those assigned. These short presentations can be turned on or off by instructors and provide reinforcement when students need it most. Please note that the Guided Examples are labeled as "Hints" in Connect assignments. The animated PowerPoints without the video and audio functions for the Guided Examples are also available in the Connect Instructor Library and Exercise Presentations. **These are indicated in the Related Assignment Materials grid on page 1 in blue bold font.**

Need-to-Know Videos

Need-to-Know demonstrations are located at key junctures in each chapter. These demonstrations pose questions about the material just presented—content that students "need to know" to learn accounting. Accompanying solutions walk students through key procedures and analysis necessary to be successful with homework and test materials. Need-to-Know demonstrations are supplemented with narrated, animated, step-by-step walk-through videos led by an instructor and available via Connect. Select chapters also include Comprehensive Need-to-Knows that draw on materials from the entire chapter.

LO	Need-to-Know	Title	Time
C1	1-1	Managerial Accounting Basics	1:36
C2	1-2	Cost Classification	1:35
P1	1-3	Preparing an Income Statement	1:45
P2, C3	1-4	Cost of Goods Manufactured	3:34
COMPREHENSIVE	1-5	Schedule of Cost of Goods Manufactured, and Income Statement	

Concept Overview Videos

The Concept Overview Videos (COVs) provide engaging narratives of all chapter learning objectives in an assignable and interactive online format. The concept overview videos replace the previous edition interactive presentations. They follow the structure of the text and are organized to match the specific learning objectives within each chapter. The concept overview videos provide additional explanation and enhancement of material from the chapter, allowing students to learn, study, and practice with instant feedback, at their own pace. Each video is paired with a Knowledge Check question.

LO	Title	Time
C1	Explain the roles and ethics of managerial accounting.	
	Purpose of Managerial Accounting	1:49
	Nature of Managerial Accounting	2:32
	Fraud and Ethics in Managerial Accounting	1:07
C2	Describe accounting concepts useful in classifying costs.	
	Direct versus Indirect	0:44
	Product versus Period Costs	1:49
	Cost Concepts for Service Companies	0:48
	Manufacturing Costs	2:33
C3	Explain manufacturing activities and the flow of manufacturing costs.	
	Flow of Manufacturing Activities	2:25
P1	Prepare an income statement and balance sheet for a manufacturer.	
	Income Statement	1:41
	Balance Sheet	1:51
	Computing Cost of goods sold	0:30
	Reporting Cost of goods sold	0:36

P2	Prepare a schedule of cost of goods manufactured and explain its purpose and links to financial statements.	
	Schedule of Cost of Goods Manufactured	2:26
C4	Describe trends in managerial accounting.	
	Trends in Managerial Accounting	1:55
	Lean Principles	1:17
	Value Chain	1:38
A1	Assess raw materials inventory management using raw materials inventory turnover and days' sales in raw materials inventory.	
	Raw Materials Inventory Turnover	1:59
	Days' Sales in Raw Materials Inventory	1:19

Synopsis of Chapter Revisions

NEW Opener – Sweet Tea Cosmetics and entrepreneurial assignment.
Streamlined learning objectives.
NEW Analytics Insight on **Kickstarter** crowdfunding.
Postponed fixed vs variable cost classifications to later chapters.
NEW Exhibit 1.6 on prime and conversion costs.
Improved Exhibit 1.7 and 1.8 on product versus period costs.
NEW Exhibit 1.9 on cost classifications for service company.
Simplified Exhibit 1.12 on reporting Cost of Goods Sold.
NEW NTK 1-3 on reporting for manufacturers.
Simplified Exhibit 1.13 and 1.15 on cost flows.
Simplified Schedule of Cost of Goods Manufactured in Exhibit 1.14 and 1.15.
New Part B to NTK 1-4 on preparing schedule of cost of goods manufactured.
NEW coverage of digital manufacturing, data analytics, and data visualization.
Revised NTK 1-5.
Four new Quick Studies, one Exercise, and one Problem.
Revised Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter Outline

I. Managerial Accounting Basics—*managerial accounting* provides financial and nonfinancial information to an organization's managers.

A. Purpose of Managerial Accounting—to provide useful information to aid in:

a. Determining the costs of an organization's products and services.

b. Planning future activities.

c. Comparing actual results to planned results.

Managerial accounting system collects cost information and assigns it to an organization's products and services. Costs are important to managers because they impact the financial position and profitability of a business. They are also important for decisions such as product pricing, profitability analysis, and whether to make or buy a product.

1. *Planning* is the process of setting goals and making plans to achieve them.
   a. *Strategic plans* usually set the *long-term* direction of a firm.
   b. *Short-term action plans* include dollar amounts and are known as a *budget*.
2. *Control* is the process of monitoring and evaluating an organization's activities and employees.
   a. Control feedback helps managers compare actual results with planned results and take corrective actions.

B. Nature of Managerial Accounting—illustrated by comparing the seven key differences between *managerial* and *financial* accounting:

1. Users of Accounting Information
   a. In financial—investors, creditors and other users *external* to the organization.
   b. In managerial—managers, executive employees *internal* to the organization.
2. Purpose of Information
   a. In financial—assist external users in making investment, credit and other decisions.
   b. In managerial—assist managers in making *planning*, and *control* decisions.
3. Flexibility of Reporting
   a. In financial—structured and controlled by GAAP.
   a. In managerial—relatively *flexible* (no GAAP rules). Useful for analyzing, planning, and control purposes.
4. Timeliness of Information
   b. In financial—often available only after the audit is complete.
   c. In managerial—available quickly without the need to wait for an audit.
5. Time Dimension
   a. In financial—focus on past performance using historical information.
   b. In managerial—often includes real-time reports used to evaluate current performance, plan future activities, and make projections.
6. Focus of Information
   a. In financial—emphasis on whole organization.
   b. In managerial—emphasis on company's projects, processes and divisions.
7. Nature of Information
   a. In financial—monetary information.
   b. In managerial—mostly monetary; but also some nonmonetary information such as customer and employee satisfaction data, product defect rates, etc.

C. Fraud and Ethics in Managerial Accounting—affects all business and is costly.

1. Three factors that push a person to commit fraud (called *the fraud triangle*):
   a. Opportunity – person must be able to commit fraud with low risk of getting caught.
   b. Pressure – person must feel pressure or have incentive to commit fraud.
   c. Rationalization – person justifies fraud or does not see its criminal nature.
2. Implications for managerial accounting—key to stopping fraud is prevention. Less expensive and more effective to prevent than to detect fraud. To help prevent fraud, managers set up *internal control systems* to:
   a. Uphold company policies.
   b. Promote efficiency.
   c. Ensure reliable accounting.
   d. Protect assets.
3. Ethics are beliefs that distinguish right from wrong. The IMA (Institute for Management Accountants) requires that management accountants be competent, maintain confidentiality, act with integrity, and communicate information in a fair and credible manner.
4. Career Paths – managerial accounting skills are highly valued and useful in many careers including marketing, management, entrepreneurs, and decision making.

II. Cost Concepts

A. Direct vs. Indirect: a cost object is a product, process, department, or customer to which costs are assigned. Cost is classified as either *direct or indirect cost*. To classify must identify the cost object.
   1. Direct costs—can be cost-effectively traced to a cost object. Consists of direct materials and direct labor.
   2. Indirect costs—those that cannot be cost-effectively traced to a cost object. Includes salary of manufacturing supervisor and wages of maintenance department employees.

B. Manufacturing Costs
   1. Direct Materials—materials that are crucial parts of a finished product. Direct material costs are the costs for direct materials that can be cost-effectively traced through the manufacturing process to finished goods.
   2. Direct Labor—employees who directly convert materials into finished goods. Direct labor costs are the wages and benefits for direct labor that can be cost-effectively traced through the manufacturing process to finished products.
   3. Factory Overhead (also called manufacturing overhead)—includes all manufacturing costs that are not direct materials or direct labor; costs cannot be cost-effectively traced to finished goods. Includes indirect materials, indirect labor and other indirect.
      a. Indirect Materials—used in manufacturing that cannot be cost-effectively traced to finished goods. Often direct materials can be classified as indirect when their costs are very low.
      b. Indirect Labor—labor needed in manufacturing that cannot be cost-effectively traced to finished goods. Includes costs of workers who assist in or supervise manufacturing.
      c. Other indirect costs include factory utilities, factory rent, factory depreciation, factory insurance, and factory property taxes.

C. Prime and Conversion Costs
   a. *Prime costs*—direct materials and direct labor.
   b. *Conversion costs*--direct labor and factory overhead costs *(*costs incurred in the process of converting raw materials to finished goods).

D. Product vs Period Costs:
   1. Product costs—production costs necessary to create a product. Includes direct materials, direct labor, and factory overhead. Product costs are added to inventory, or capitalized, during manufacturing of products. When sold, these costs are expenses as cost of goods sold.

2. Period costs—nonproduction costs linked to a time period (not to specific products). Expensed in period when incurred and reported on the income statement as either selling expenses or general and administrative expenses. Examples of selling expenses include selling expenses and advertising expenses, delivery expenses, and commissions. Examples of general and administrative expenses include office accounting expenses, office employee wages, and office rent. For a manufacturer, period costs are also called nonmanufacturing costs.
3. Reporting Product and Period Costs:
   a. Period costs go directly to the current income statement as expenses.
   b. Product costs are first assigned to inventory. They move to cost of goods sold when inventory is sold. Product costs assigned to inventory non sold are reported on the balance sheet. When sold, product costs are assigned to and reported as cost of goods sold on the income statement.

E. Cost Concepts for Service Companies – cost concepts described also apply to service companies. Service companies can classify cost as direct materials, direct labor, overhead, selling, or general and administrative costs. Costs of services are not reported in inventory.

III. Reporting—financial statements for manufacturing companies have some unique features resulting from their activity of producing goods from materials and labor.

A. Reporting Inventory on the Balance Sheet
   1. Raw Materials Inventory—cost of materials a company acquires to use in making products Raw materials that can be cost-effectively traced to a product are called direct materials and included in raw materials inventory.
   2. Work in Process Inventory— (goods in process inventory) consists of costs of direct materials, direct labor and overhead for partially completed products.
   3. Finished Goods Inventory—consists of the costs of direct materials, direct labor and overhead of completed products ready for sale.
   4. Manufacturer Balance Sheet - current assets section of the balance sheet for a merchandiser reports only merchandise inventory rather than three types of inventory. Service companies do not have any inventory held for sale.

B. Reporting Cost of Goods Sold on the Income Statement—the main difference between the income statement of a manufacturer and that of a merchandiser is the content of cost of goods sold.
   1. A Merchandiser computes cost of goods sold as:

      Beginning *merchandise* inventory
      \+ cost of goods *purchased*
      Cost of goods available for Sale
      \- Ending *merchandise* inventory
      Cost of Goods Sold

   2. A Manufacturer computes cost of goods sold as:

      Beginning *finished goods* inventory
      \+ cost of goods *manufactured**
      Cost of goods available for Sale
      \- Ending *finished goods* inventory
      Cost of Goods Sold

   3. **Cost of goods manufactured* is the sum *of direct materials, direct labor,* and *overhead costs* incurred in production.

IV. Cost Flows and Cost of Goods Manufactured —the three manufacturing activities are:

1. Materials Activity

   Raw materials inventory, beginning
   + Raw materials Purchases
   Raw materials available for use in production
   - Raw materials inventory, ending
   Raw materials used in production

2. Production Activity
   Beginning work in process inventory—costs of partially complete products from prior period.
3. Sales Activity – manufacturers usually start a period with beginning finished goods inventory, which is the cost of finished goods from prior periods. Adding this to the cost of newly completed units equals total finished goods available for sale in the current period. Cost of finished goods sold is reported on the income statement. Cost of any finished goods not sold is reported as a current asset, finished goods inventory, on the balance sheet.

E. Schedule of Cost of Goods Manufactured (also called a manufacturing statement or a statement of cost of goods manufactured)– summarizes the types and amounts of costs incurred in the manufacturing process. Schedule is divided into four parts:

1. Compute direct materials used – beginning raw materials plus purchases minus ending raw materials.
2. Compute direct labor used –wages, payroll taxes, and employee benefits.
3. Compute factory overhead used – all indirect costs related to manufacturing activities.
4. Compute of cost of goods manufactured – direct materials, plus direct labor, plus overhead, plus beginning work in process minus ending work in process inventory.

V. Trends in Managerial Accounting

1. Digital manufacturing – combines machines, computers, and human control to manufacture products. Humans use data analytics – process of analyzing data to identify meaningful relations and trends and data visualization – graphical depiction of data to help people interpret their meaning.
2. Customer orientation – increased emphasis on customers. Customer orientation means that managers and employees understand the changing needs of customers and align operations accordingly.
3. Global economy – expands competitive boundaries and provides customers more choices.
4. E-commerce – customers are increasingly interconnected via smartphones, text messaging, and other electronic applications and expect and demand to buy items electronically whenever and wherever they want.
5. Service economy – service companies include telecommunications and health care and constitute an ever-growing part of the economy.
6. Lean principles – goal is to eliminate waste while satisfying the customer and providing a positive return to the company. Includes total quality management (TQM) and just-in-time (JIT) manufacturing.
7. Value chain – series of activities that add value to a company's products or services.
8. Corporate social responsibility – must consider demands of other stakeholders, including employees, suppliers, and society.
9. Triple bottom line – focuses on financial, social and environmental measures.

VI. Raw materials inventory turnover and Days' Sales in Raw Materials Inventory

A. Raw materials inventory turnover helps managers assess how effectively a company manages its raw materials inventory.

1. Computed as raw materials used divided by average raw materials inventory.

2. Reveals how many times a company turns over (uses in production) its raw materials inventory during a period.
3. High ratio is preferred.

B. Days' sales in raw materials inventory reveals how much raw materials inventory is available in terms of the number of days' sales.

1. Computed as (ending raw materials inventory divided by raw materials used) x 365.
2. Measures how long it takes raw materials to be used in production.
3. Assuming production needs can be met, companies prefer a low number.

Chapter 1 Alternate Demo Problem

Using the following information for Superior Manufacturing Company, prepare a manufacturing statement and an income statement for the year ended December 31, 2021. (Assume a 25% income tax.) Further assume that all raw materials used were direct materials and the factory overhead costs were totaled for you on a separate schedule.

Raw Materials Inventory January 1, 2021…….	$20,000
Raw Materials Inventory December 31, 2021……..	40,000
Work in Process Inventory January 1, 2021…….	50,000
Work in Process Inventory December 31, 2021……	80,000
Finished Goods Inventory January 1, 2021.....	120,000
Finished Goods Inventory December 31, 2021	60,000
Administrative Expenses	30,000
Selling Expenses	60,000
Sales.....	600,000
Raw Materials purchases during 2021……	150,000
Direct Labor ……...	120,000
Factory Overhead (per separate schedule) ……	180,000

Chapter 1 Solution: Alternate Demo Problem

SUPERIOR MANUFACTURING COMPANY
Manufacturing Statement
For Year Ended December 31, 2021

Raw Materials Inventory, 1/1/21	$ 20,000	
Raw Materials Purchases	150,000	
Raw Materials Available for Use	170,000	
Less Raw Materials Inventory, 12/31/21	40,000	
Direct Materials		$130,000
Direct Labor		120,000
Factory Overhead		180,000
Total Manufacturing Costs		430,000
Add: Work in Process Inventory 1/1/21		50,000
Total Work in Process Inventory		480,000
Less: Work in Process Inventory 12/31/21		80,000
Cost of Goods Manufactured		$400,000

SUPERIOR MANUFACTURING COMPANY
Income Statement
For Year Ended December 31, 2021

Sales		$ 600,000
Cost of Goods Sold:		
Finished Goods Inventory, 1/1/21	$140,000	
Cost of Goods Manufactured	400,000	
Cost of Goods Available for Sale	540,000	
Finished Goods Inventory, 12/31/21	90,000	
Cost of Goods Sold		450,000
Gross Profit		150,000
Operating Expenses:		
Selling Expenses	30,000	
Administrative Expenses	60,000	
Total Operating Expense		90,000
Income before Taxes		60,000
Income Tax Expense		15,000
Net Income after Taxes		$ 45,000